

## VME Intensity Monitor - Task #10946

### ACNET settings for ADC parameters

11/17/2015 01:46 PM - John Diamond

|                        |              |                        |             |
|------------------------|--------------|------------------------|-------------|
| <b>Status:</b>         | Resolved     | <b>Start date:</b>     | 11/17/2015  |
| <b>Priority:</b>       | Normal       | <b>Due date:</b>       |             |
| <b>Assignee:</b>       | John Diamond | <b>% Done:</b>         | 100%        |
| <b>Category:</b>       |              | <b>Estimated time:</b> | 0.00 hour   |
| <b>Target version:</b> |              | <b>Spent time:</b>     | 10.50 hours |

#### Description

ACNET setting devices requested by Ning -

It would be even nicer if the delays and window size can be translated into time units. (8ns per count)

| Register              | Address     | Data Width |
|-----------------------|-------------|------------|
| <b>Per board:</b>     |             |            |
| Window Size           | 0x2BA       | 16         |
| Sync Delay            | 0x2C0       | 16         |
| Baseline Average Size | 0x3C1       | 8          |
| Polarity Flip         | 0x3C2       | 8          |
| Baseline Correction   | 0x3C3       | 8          |
| <b>Per device:</b>    |             |            |
| Channel Delay         | 0x3F0~0x3FE | 16         |

#### History

##### #1 - 11/17/2015 10:29 PM - John Diamond

Began implementing accessor methods in ADCACNET for the Window Size setting.

##### #2 - 11/18/2015 10:37 PM - John Diamond

Implemented boiler-plate accessor code for new devices.

Fully implemented baseline average size, baseline correction and channel delay settings.

##### #3 - 11/19/2015 01:20 PM - John Diamond

- Status changed from New to Accepted

- Assignee set to John Diamond

- % Done changed from 0 to 80

All settings implemented but not tested yet.

##### #4 - 11/20/2015 11:24 AM - John Diamond

Created test devices for nbeam:

| Device ID | Description                 | Test Device(s)     |
|-----------|-----------------------------|--------------------|
| 0x0032    | Window Size (clock ticks)   | Z:NBMW0, Z:NBMW1   |
| 0x0033    | Sync Delay (nanoseconds)    | Z:NBMAS0, Z:NBMAS1 |
| 0x0034    | Baseline Average Size       | Z:NBMAB0, Z:NBMAB1 |
| 0x0035    | Polarity Flip               | Z:TRF990, Z:TRF991 |
| 0x0x36    | Baseline Correction         | Z:TRC990, T:TRC991 |
| 0x0037    | Channel Delay (nanoseconds) | Z:TRD990, Z:TRD991 |

##### #5 - 11/20/2015 02:13 PM - John Diamond

Registers as set in nbeamstartup:

```
# window size
set16bRegister( 0, 0x2ba, 0x800 )

# sync delay
set16bRegister( 0, 0x2c0, 0x0 )

# channel delays
set16bRegister( 0, 0x3f0, 0x0 )

# baseline average size
set8bRegister( 0, 0x3c1, 0x3 )

# polarity flip
set8bRegister( 0, 0x3c2, 0xff )

# baseline correction
set8bRegister( 0, 0x3c3, 0xff )
```

Registers as read from ACNET:

```
ACL> read Z_NBMAW0

Z_NBMAW0 = 2048 cltk

ACL> read Z_NBMAS0

Z_NBMAS0 = 0 ns

ACL> read Z_NBMAB0

Z_NBMAB0 = 3

ACL> read Z_TRF990

Z_TRF990 = 1

ACL> read Z_TRC990

Z_TRC990 = 1

ACL> read Z_TRD990

Z_TRD990 = 0 ns
```

Digitizer [#2](#) at A16 0x2000 was not responding on nbeam when I tried...

**#6 - 11/20/2015 02:14 PM - John Diamond**

- Status changed from Accepted to Resolved

- % Done changed from 80 to 100

**#7 - 11/23/2015 11:34 AM - John Diamond**

Create devices for s60tor:

| Device ID | Description                 | Test Device(s)     |
|-----------|-----------------------------|--------------------|
| 0x0032    | Window Size (clock ticks)   | R:S60AW0, R:S60AW1 |
| 0x0033    | Sync Delay (nanoseconds)    | R:S60AS0, R:S60AS1 |
| 0x0034    | Baseline Average Size       | R:S60AB0, R:S60AB1 |
| 0x0035    | Polarity Flip               | R:TRF703, Z:TRFS60 |
| 0x0036    | Baseline Correction         | R:TRC703, Z:TRCS60 |
| 0x0037    | Channel Delay (nanoseconds) | R:TRD703, Z:TRDS60 |